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Optimal tautness and the economics of incentives in bureaucracies

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ABSTRACT: The economic literature which deals with the tautness of plans and with its relevance to macroeconomic pressures in the Soviet-type economies is reviewed. Kornai's (1980) shortage economy, a systemic approach to pressure, which is an alternative to the plan-related tautness coined by Hunter (1961) is discussed. Also, tautness is dealt with from the agency angle, both in a static framework and in a dynamic, ratchet-related, framework. The main defining characteristic of Soviet-type economies was their hierarchical-bureaucratic structure, and the concepts of tautness and the ratchet are of great relevance to hierarchical organizations. Markets determine the optimum size of hierarchies. Where markets cannot exist, or where they are stifled, hierarchies may grow to be much too large, far beyond their optimal size. In these cases they display openly the dysfunctional behavior of the type attributed to the Soviet bureaucracy. They are not exposed to the kind of competition that destroys hierarchies that employ tautness and the ratchet in an inefficient manner.

TEXT: This paper reviews the economic literature which deals with the tautness of plans and with its relevance to macroeconomic pressures in Soviet-type economies. It opens with a discussion of Kornai's shortage economy, a systemic approach to pressure, which is an alternative to the plan-related tautness coined By Hunter, and deals tautness from the agency angle, both in a static framework and in a dynamic, ratchet-related, framework.

Hunter wrote "Optimal Tautness in Developmental Planning" (Hunter 1961) when the only signals known to the economist were prices, and firms were black boxes whose only objective was profit. At that time, our knowledge of production and distribution decision-making on the other side of the "iron curtain" was sketchy-it was by no means clear that the tools by which agents in a market environment could be analyzed were at all appropriate to the research of the centrally planned economies (CPE). In many respects, Hunter's 1961 article was the forerunner to the principal-agent (P/A) and signalling literature as it applies to CPEs.

The notion of optional tautness underlies the literature that analyzes shortages and other costs of tautness (Berliner 1957, Kornai 1980), and nearly all research on incentive theory in CPEs, which is the main subject of what follows.

Hunter (1961) discusses the relation between pressure, administrative pressure applied by planners, and social effort. Though the term effort is never used, the importance of market failures due to the presence of hidden inputs pervades the article.(1) While this aspect of the principal-agent is evident, there is an important difference between Hunter (1961) and conventional P/A literature in the way targets motivate agents to exert themselves. The latter ties the motivation to the incentive system. Suppose the incentive contract stipulates that the reward to the agent-manager will be  $B$  if output exceeds the target and  $b$  otherwise, where  $B > b$  (see Figure 1): this private incentive is what determines the agent's input of effort. (Figure 1 omitted) In Hunter, the focus is on the hortatory role of the

target: "What determines a society's reaction to a comprehensive growth program? Evidently this is a political, psychological, cultural question, reflecting a people's nature and heritage" (p. 567). That is, in Hunter's work growth targets affect society, not individuals, because they have a social role-to imbue society with a will to excel. I believe that targets may affect performance through both avenues, and both are complementary. In certain historical circumstances, Hunter's way may be very important: in the era when history and path-dependence has earned legitimacy in the shape of hysteresis in economics, we may say that when several alternative equilibria exist, rhetoric and public enthusiasm may be used to change beliefs and expectations and move the economy from a low-level equilibrium to a higher, more desirable one. Hunter himself may be in agreement with this interpretation. Hortatory targets may be appropriate to the early period of "Sturm und Drang," or take-off, but not to the later period when the economy enters self-sustained growth, a period which is accompanied by structural stability. In this latter period, when coordination becomes more important, routines rule, and incentive systems in which targets figure prominently would be part and parcel of these routines. This period and the role of targets in the individual's incentive system is the focus of this paper.

It should be remembered that the context of Hunter's article is a dynamic one: he asks how effort can be enlisted to speed up the task of development, of transforming an undeveloped economy into a developed one. For the reasons mentioned above, the dynamic element is not emphasized initially, in lieu of the enlistment of effort in a simpler, static environment. A dynamic element is introduced, however, toward the end of the paper.

Shortages may be one cost of tautness. Kornai (1990) provides an alternative hypothesis to explain why shortage is an essential element of the socialist economy. If his explanation is accepted, this substantially reduces the relevance of tautness in analyzing economies of Eastern Europe. Thus, Kornai's shortage hypothesis is considered before the static incentives model.

Section 3 reports on the new dynamics of Soviet incentives, a field where P/A theory has made important contributions. The very fact that agency theorists have come to use some of the concepts first developed in Soviet economics suggests that problems faced by central planners do not differ from those in other hierarchies. From an exercise in esoterics, the theory of central planning has become a major tributary of the theory of bureaucratic control (or loss of it).

#### KORNAI'S SHORTAGE VS. HUNTER'S TAUTNESS

Hunter (1961) assumes that a policy choice may create shortage: the probability that a taut output target will be fulfilled is low, and since planned output is allocated to prospective users, the likelihood of a shortfall rises with the ambition of the target.<sup>(2)</sup> Hence the excess of demand over supply. For Kornai, shortage is endemic: the system, not the hierarchy, creates shortage. Thus, the hierarchy cannot do away with shortage. Kornai highlights a set of fundamental questions, namely: Can shortage be averted a socialist or centrally planned economy? Does it inhere in the system as such, or in the humans who have been operating the system for the past sixty or forty years? Debate over these issues has been continued since Kornai first published his book in 1980 (see, for example, Hare 1982, Wagener 1982, Levine 1983, Marrest and Mitchell 1984, and most recently, Berliner 1998, and Goldfeld and Quandt 1988a).

Does Kornai's hypothesis describe a stable allocation mechanism? I argue below that Kornai's market clearing mechanism, the queue, does not work. Further, the automatic rationing device will not do the trick, then we are

back to administrative rationing: if the administration has to ration, can it perhaps also influence the motivation of the manager? Finally, I construct an incentives model which takes into account the conclusion of the previous two points.

#### SHORTAGE AND MARKET CLEARING

Suppose we accept Kornai's conclusion that soft constraints, on both the capital and the current budget, lead to unlimited, possibly infinite, demands, while supplies are naturally finite. This raises the question of market clearance.(3) How is the market cleared? Kornai rejects rationing (rightly, if consumers' markets were all we are concerned with), and Walrasian price adjustments clearly can not be of any relevance in this context. ~~Kornai uses a queue to allocate available supply to potential buyers.~~ Since the queuing model is an essential link in the logic which closes Kornai's model, and since I believe that it is incompatible with its remainder and with Kornai's basic assumptions, I have no choice but to go into a highly simplified description of some of the model's details.

Kornai considers a market for a good used in production, say a machine part that has a life of  $1/\gamma$  periods. At each point of time the enterprise is faced with a series of purchasing decisions. A share  $\gamma$  of all enterprises decides each period to go shopping (since the product lasts for  $1/\gamma$  periods). Of these  $1-\lambda$  decide to buy a freely available low quality good  $H$ , while  $\lambda$  proceed to go for a high quality good  $G$ . Of those who observe the queue for  $G$ ,  $\phi(W)$  choose to queue up for the shortage commodity, where  $W$  is the waiting time in the queue, while the rest do other things which will not concern us.  $W$ , waiting time, is the proxy for shortage in the model, and  $\phi'$  is negative: in other words, the longer the waiting time, the lower the propensity of the enterprise to join the queue. Since the number of enterprises is given, total demand,  $d(\cdot)$ , is  $d(W) = \Delta \lambda \phi(W)$

where, on the right-hand-side, only depends explicitly on  $W$ . Since the output of the suppliers is also given, a stationary state, Kornai's normal state, may exist. The defining characteristic of the normal state is that the queue and waiting time stay constant, since the number of new accessions to the queue equals that of those who leave, having been supplied. This steady state is defined in terms of a fixed waiting time,  $W^*$ , also called the normal waiting time, a fixed proportion of the enterprises choosing to join the queue, and so forth. A fixed queuing time and a fixed queue length do, of course, mean that the main characteristics of shortage have a normal intensity. It might seem that from an all but infinite excess demand, Kornai has managed to arrive at a well-defined allocation by queue. I dispute this presumption on several grounds.

It is clearly important that the normal state be stable, in the sense that if it is perturbed it returns to equilibrium. As van Brabant puts it, "the economics of shortage basically aims at explaining the stability of imbalances" (1990, p. 169; my emphasis). In particular, it is important that a random increase in  $W$  will result in waiting time eventually returning to  $W^*$ , and not to ever-increasing levels of  $W$  that diverges to infinity. This depends on  $d(W)$ , defined above, that is, on  $y$ ,  $X$ , and not being increasing functions of  $w$ .(4) It is, therefore, important to examine why Kornai assumes that  $\phi'(W) < 0$ , and that  $y$  and  $h$  do not depend on  $W$ .

Kornai (1980) supports his assumption that  $\phi'(W)$  is declining in waiting time by saying "Those who spend their time in a queue certainly do not enjoy it" (p. 132). This statement requires no support when queuing is costly—where the prospective purchaser has to be bodily present at some location, giving up what he otherwise would be doing and, possibly, shoving

and shouting to keep a place in the line. Since consumers have hard budget constraints, such a queue is not relevant here. More relevant is a queue formed by industrial buyers. Where enterprise managers simply place an order and wait, the queue is costless. Some down-payment may be required, but if the budget constraint is soft, this too presents no cost. For similar reasons, bribes also do not matter. If the enterprise has to use a special purchasing agent (Berliner 1959), the queue would then be using a special and scarce item of human capital, and the length of the waiting time in one queue necessarily precludes similar duties in other queues. This takes us into the second economy, which is quite a different story and does not appear in Kornai's model.<sup>(5)</sup> Hence either  $\phi = 1$  always, independent of  $W$ , or  $\phi' \geq 0$ .

Now consider  $\lambda$ . Kornai allows enterprises to queue for  $G$  (for which a fraction of  $\lambda$  opts), or purchase  $H$  (or even refraining from either), and this is an exclusive either/or. Why exclude enterprises buying  $H$  and queuing for  $G$ ? Assuming a soft-budget constraint, as long as  $H$  is of any use, a spare part for an idle machine, for example (1990, p. 128), even if it may soon break or it may produce defective output, you should buy it. Discard it when  $G$  becomes available. Thus, although  $h$  need not rise when  $W$  increases, the demand for  $H$ , and total pressure on the economy, should. If the output of  $H$  reacts to this demand, the pressure on resources at large is increased. When the overall shortage ( $W$ ) is large,  $H$  itself may turn into a shortage commodity.

At any given point in time, managers must decide whether to shop for  $G$ .  $G$  lasts for  $1/\gamma$  periods. If the queue is very short and managers believe that  $G$  can be obtained at any time, they will shop every  $1/\gamma$  periods (Kornai 1980, p. 130). Not so if managers know that they must wait  $W$  periods once they decide to buy: in this case, managers should put their names down in the queue already after  $1/\gamma - W$  periods. In other words, the knowledge of the existence of a queue may lead to more frequent purchasing and queuing decisions rather than to fewer ones. Thus,  $\gamma$  is not the proportion of enterprises deciding to shop: denote the latter by  $\gamma(W)$ , where  $\gamma(0) = \gamma$  and  $\gamma' > 0$ . This replaces 9 in (1), the previous definition of  $d$ :

$$d(W) = \gamma(W) \lambda \phi(W)$$

Thus, longer queues beget longer queues, a destabilizing condition common to many excess demand phenomena.<sup>(6)</sup>

Summing up the argument:  $d(W)$  clearly is increasing in  $W$ . An increase in waiting time  $W$  may, if anything, boost demand rather than reduce it because (i) it increases the number of firms  $y$  which at any time go shopping for  $G$ , (ii) it increases the number of those that opt to buy both  $H$  and  $G$ , and (iii) it increases the proportion of those who queue up for  $G$ . Moreover, if this is the effect of the main state variable, then a stable stationary state does not exist in this model. In a no-shortage economy, that is, where  $W$  is very low, new demand and supply may balance and a normal state of the market, an equilibrium  $W^*$ , may exist. But this normal state is unstable, in the sense that any increase in shortage may lead to an ever-increasing length of the queue. In other words, though a normal state may exist, its instability makes it of little use in the explanation of how Kornai's shortage model arrives at a steady state allocation.

There is an alternative approach to Kornai's problem, one that is closer to the typical economist's approach. Accessions to the queue derive from two motives: from reductions of inventories through current productive use, and the desire to increase the level of inventories (cf. Hare 1982, pp. 414f). What we know about the effects of tautness tells us that the waste of materials may increase with  $W$ , due to storming, forced substitution, and the like. The desired level of stocks also rises with shortage and new

orders will rise with the upward change in  $W$ . Hence, rather than either (1) or (2)

$d = d(W, \Delta W)$ ,

where  $d$  is increasing in both arguments.

To conclude, the shortage model has no market-clearing device which works automatically. We need administrative rationing to close the system, to save it from complete chaos. Since producers goods markets are the focus here, it is the material-balancing system which is inseparable from the shortage economy, both as its solution but possibly also as its prime cause. Kornai (1980) briefly discusses the role of the material-balance mechanism in demand formation (pp. 104-107), but this is not viewed as an allocation mechanism which functions in real time; it is described as another friction in the market which the enterprise has to suffer before it can materialize its demand. This is because the rationing system seems to appear only in the planning stage and not in the plan implementation or production stage. It is not a mechanism which is driven into action by actual shortage, but an organization which allots rations beforehand, rations whose role in the formation of actual material flows is in no way clear. In CPEs, planners are active in real production time as well as during plan preparation, and must react to signals of danger, such as rising shortages, the decline of fungible inventories, and the belated arrival of supplies. (7) Even in Hungary, under the New Economic Mechanism, there must have been some intervention by the planners in cases of shortage, though there the means may have been veiled, and polite requests may have replaced peremptory commands. If the model really fails to work on its own, if it requires planners to function, then we have to look at the ways in which planners may affect the primary motivation of the manager.

#### THE PLANNER AND MANAGERIAL MOTIVATION

The shortage model requires an active allocator, a planner. Does the planner motivate the socialist manager, or are animal spirits the manager's driving force, as Kornai contends? Kornai attacks the view that the manager is a bonus maximizer. He believes that what drives managers is their identification with the long-run fortunes of their enterprise. I wonder whether the two views are really diametrically opposed, and whether a more detailed statement of bonus maximization would necessarily include the manager's identification with the enterprise. I question also whether the manager's aims are molded by the planner, as in the supervisory hierarchy.

If the basic motivation of the enterprise manager has ever been in dispute among Western researchers, then the latest information from NEM Hungary and the results of the Soviet Interview Project (SIP), as reported by Abel and Toth, and by Berliner (1988) and Linz (1987 and 1988), respectively, have surely put an end to it. Despite the attempted changes in the bonus rules, which aimed at tying the size of the bonus fund to net profits, Berliner reports that the primacy of the output target, as exemplified by storming, continues unabated. Berliner believes that the evaluation of managers by their superiors, the ministry which still closely monitors monthly output statistics, is what accounts for the behavior of the managerial personnel. Abel and Toth report, on the basis of a questionnaire survey, statements made by the managers themselves, that to be in the superiors' good favor is what counts. However, Kornai could take the results to support the view that superiors are interested in output and that the manager is therefore a maximizer of output and not of bonuses. Paradoxically, this evidence may be taken to support opposing views. This question must therefore be taken up in earnest.

Let us first reformulate the bonus maximization hypothesis: the manager

wishes to maximize the expected value of his life-long utility, and this requires that, other things given, the present value of his real income should be maximized. Other things include, for example, social standing, which is closely dependent on the importance of the organization (Grossman 1986). Career prospects are therefore very important in the formation of managerial motivation, and depend in part on the superiors' views of his managerial success. Since managers do not function in a vacuum, managerial motivation and evaluation must be analyzed as part of the whole management of the enterprise--any single manager has but a limited effect on the operation of the productive unit. Likewise, the managerial team cannot function properly if its interests are opposed to those of the workers. If the enterprise qua enterprise is to succeed, the manager/management team has to be in agreement with these interests. Consequently, the manager's long-term bonus maximization should be taken to mean the maximization of the long-run welfare of the coalition that makes up the enterprise and its staff.

Granting this and the fact that it is the planners' task to decree plans, the behavior of both planners and managers cannot be very different from what is depicted in the literature. Let us accept Kornai's contention that long-run growth is an important aim of enterprise. The fulfillment of plans set by superiors gives the enterprise a good name among its superiors, and this good name leads them to give it preference when investment funds are allocated. This should be quite natural for them: if it is assumed that the planners believe that the plans they draw up are the best ones possible in the given circumstances, then those enterprises that fulfill them prove that they are well-managed, and they are the very ones that should grow, while the non-fulfillers should shrink. It is likely that the planners' values in this case may become those of the enterprise managers because the latter identify with the units for which they are responsible. It is true that usually managerial promotions would follow the same criteria, and often managerial incomes would have in them a bonus which is dependent on plan fulfillment.<sup>(8)</sup> However, to believe that the mere monetary bonus is what makes the manager tick is to take too facile a view of a much more complex picture.<sup>(9)</sup>

The question still remains whether the hierarchy can change the short-term behavior of managers. Suppose we change only one of the rules of the economic game in the CPE, and require that investment has to be financed from funds accumulated by the enterprise--current production would continue to be supported by subsidies and loans, but enterprise expansion would require profits, with prices given. Blending Berliner's (1988) and Kornai's terminology, this would mean that the capital budget constraint was hardened while the current budget constraint remained soft. Suppose such a change could be effected: would it not affect the manager's view of his social task? Opting for maximum output, regardless of profitability would, in such a regime, freeze the enterprise at its given size, and, in an expanding economy, lead to its relative shrinkage, to a loss of prominence, to a decline of the social standing of both manager and staff. In particular, the manager's standing in the eyes of the ministry would decline. I believe that the manager's view of his short-term job would be affected by such a change, and the prominence of profits in his considerations would rise. Put otherwise, there is a close relation between the hardness of the budget constraint and the manager's perception of his task, that is, of the manager's objective function.

If this is accepted, then the objectives of enterprise managers are to a very large extent formed, albeit indirectly, by the system architects and by the hierarchies that run the system. The great question is, what are the constraints on the system designers: is a socialist CPE with a hard-budget constraint a feasible proposition? And if so, is it possible to change the habits of an existing bureaucracy, which has always accorded prime

importance to the fulfillment of physical targets, and make it change the priority and let financial targets reign supreme? One part of this complex question has been discussed by Berliner (1988, p. 72-76): the sanction which the capitalist market prescribes for failing firms is bankruptcy, which hits arbitrarily and may affect parties which are not at all responsible for the failure. The bureaucratic system is likely to behave differently and replace the automatic market sanction by a quasi-judicial one, that is, appoint a fact-finding committee to examine the manager and to find out whether he is responsible for the poor operation of the enterprise, and to punish him if found guilty. As Berliner puts it, "Any self-respecting accountant can prove that his enterprise's poor performance was largely someone else's fault, and no self-protecting bureaucrat will sign his name on a document punishing a Soviet manager!" (1989, p. 10, with my insertion). We have evidence to the effect that during the Stalinist period superiors did behave as arbitrarily as the market—they did not try to examine why the target was not fulfilled before punishing the manager. But this was before the bureaucratization of the system. Can a routinized bureaucracy behave likewise? Though the answer to this question is at the heart of the debate about the feasibility of reform, this is not the place to pursue it. Observe that the discussion above dealt only with the punishment of unsuccessful managers. The closing down of an enterprise is a more severe decision which, *inter alia*, involves an admission of failure by the top of the hierarchy.(10) Some conclusions from this unfinished debate are drawn in the next sub-section.

#### MODELLING THE SOFT BUDGET CONSTRAINT

Kornai and Weibull (1983) and Goldfeld and Quandt (1998a) have pioneered the use of the soft budget constraint in economic models. The concept itself is arguably one of the most useful contributions of Kornai to our field, and coupling it with a model of allocation under uncertainty is natural. However, the fingerprints of the hierarchical subordination are missing in the story. The latter means, as Berliner claims, that the sanctions for being in the red as well as those for not fulfilling the targets are imposed by superiors (planners or principals). Planners decide how much weight to assign to a negative flow of profits (or, more correctly, too large a stock of accumulated losses) or to below-target output. Such an approach unifies the two papers of Goldfeld and Quandt (1988a and 1988b). Let  $\beta$  be the expected utility cost of the non-fulfillment of the target and  $\alpha$  that of getting into the red: the hardening of the budget constraint is reflected in the model as an increase in  $\alpha$ . I need not repeat here that both  $\beta$  and  $\alpha$  have to be taken here in the light of the discussion above. Now let  $y=f(x,iota)$  be the production function, where  $y$  is the output,  $x$  the purchased input and  $iota$  a random disturbance, and let  $q$  be a target imposed by the planner. Denote profits by  $\pi$ ,  $\pi(x,iota)=y-x$ , both prices, for input as well as for output having been administratively normalized at unity, and, once  $\beta$  and  $\alpha$  are given, we have a well-defined managerial maximization problem:

$$U = P(\pi(x,iota) < 0) \alpha + P(y(x,iota) < q) \beta,$$

where expected utility is in fact assumed linear in the two costs (and we are thereby spared the interaction term) and where, without loss of generality, negative profits have been assumed to entail bankruptcy. To fix  $\beta$  and  $\alpha$  we have to invoke the so-called agent's rationality (or participation) constraint—his alternative earnings or utility constraint,  $U_{sub 0}$ , which imposes an upper bound on the sanction couplet

$$U \leq U_{sub 0}.$$

From the latter we obtain a relatively simple relation between  $\beta$  and  $\alpha$  (Figure 2). (Figure 2 omitted) When  $\beta = 0$ ,  $U_{sub 0}$  is the hard budget constraint, that is, the hardest budget constraint that a bureaucracy can impose at a given point of time. As  $\beta$  rises,  $\alpha$  has

to decline. When  $\beta = \beta_{sub 1}$ ,  $\alpha$  vanishes and we are in a state where profits have no meaning. To harden the budget constraint entails a cost for the planner, the loss of control over the output flow. In such an environment, planners must trust an alternative allocation mechanism, probably the market, and give priority either to physical or financial indicators. Has the Hungarian planner given up his "interest" in the output of the enterprise? If the budget constraint has not hardened appreciably, may this not be a sign that he has not?

The relative size of  $\alpha$  and  $\beta$  will affect enterprise behavior in a straight-forward way: there exists a profit-maximizing quantity of the input  $x$  which the enterprise will order when  $\beta = 0$ . The larger  $\beta$  the more will the enterprise want to protect itself against the non-fulfillment of the target, and the greater its demand for  $x$ . The larger  $\alpha$ , the closer will the quantity ordered be to the profit-maximizing  $x$ . This model has implications very similar to that of Domar (1974) (11)

To endogenize the choice of  $\beta$  and  $\alpha$  we need the planner's utility function. Since no complete solution is to be attempted here, only a brief indication of possible further building blocks is outlined. The need for coordination can be supplied by a Litwack-like (1988) benefit function: suppose  $y$  is required by the planner to balance some given needs, and  $x$  is an unplanned good, available at unlimited quantities at a constant cost. Then the higher the convexity of, say,  $f(x, \cdot)$ , the more important it becomes for the planner to fix the target at the correct level and the higher  $\beta$ .

What a simple model like this shows is that the hardening of the budget constraint cannot be divorced from the solution of the allocation problem. Only when a market takes over the allocation of resources, only when the central planner frees himself from all micro-allocative activities, only then can  $\alpha$  be raised and the budget constraint hardened to its bureaucratic limit.

#### THE STATIC FRAMEWORK: FORCING CONTRACTS

Figure 3 portrays the simplest form of the traditional incentive schemes reported from the former STEs, where bonuses are paid for plan target fulfillment. (Figure 3 omitted) "Tautness" here applies to the relative height of target and capacity (or production possibilities): if a reasonable likelihood of plan-fulfillment requires high managerial effort's (Hunter 1961, p. 565), then we can call the plan taut (see also Wagener 1982, p. 519). These incentive schemes are called forcing contracts in the principal-agent literature. Keren (1972) attempted to explain, on the basis of the incentive system, the existence of a relation between the actual and the planned output in the Soviet economy, and possibly to explain the leftward shift of the curve (Hunter 1961, p. 565): then  $PP'$  and  $QQ'$  are two alternative relations between planned and actual output, with  $X_{sub 0}$  the optimum target under  $QQ'$  and  $X_{sub 1}$  the optimum target under  $PP'$ . The highest obtainable output, to simplify notation—under both relations, is  $q^*$ : thus  $X_{sub 1} < q^* < X_{sub 0}$ . (12)

The aim of incentives in this and similar models is to elicit productive effort, an invisible input. A common assumption is that the distribution of output,  $q$ , depends on managerial effort: thus  $F(q, a)$ , and

$$F_{sub a} \quad \text{Xi} \quad d F / d a \leq 0.$$

Assuming the manager's utility depends on both effort (negatively) and the bonus, in the simplest formulation  $u = y - v(a)$ , where  $y \in [B, b]$ . By the manager's first order conditions the disutility of effort equals the expected marginal utility of effort, that is,  $v' = (B - b) F_{sub a}(x, a)$ —the product of the increase in the probability of plan fulfillment and the



utility difference which the bonus creates. Therefore, the higher the utility difference B-b, the greater the manager's exertion and the rise in expected output or improvement in the output mix: see Figure 4, where  $b \text{ sub } 0 > b \text{ sub } 1$ . (Figure 4 omitted) It is the utility difference that counts, not the level, and the pressure on the manager can be increased by raising the non-fulfillment punishment, though this reduces his expected utility. Since the model neglects the alternatives which the manager faces, it is gravely flawed and incomplete, and cannot be used to identify the planner's optimum incentives, which clearly have to be bounded.

The P/A model has in it a so-called agent's rationality or participation constraint, the constraint that the manager's well-being cannot decline below what is offered in alternative employment. Now this is an alternative which does make some difference to the subject at hand. Stalinist terror did certainly increase the punishment which could be inflicted-Siberia, not another managerial position-and thus the effort level which could be required from the manager. This may not be a stationary state, but as a temporary phenomenon it could work. Thus we have here one explanation for a possible shift of the plan/actual output curve of Figure 3 in early planning years. The shift need not be in the right direction: Hunter (1961) and historical experience show a shift to the right (compare QQ' in Figure 3 to PP': the latter would, by this argument be the normal, steady-state curve). The 1972 paper shows that the effect of an increase of B-b on plan-fulfillment is unclear (Keren 1972, p. 478); under the distribution of Figure 4 the shift would be upward (to the left) but the slope of the line would also change and shift the target to the right.

The arrival of the P/A model has, however, not made the Soviet incentive system kosher. Forcing contracts have been attacked for being both too effective and for being non-optimal, and these critiques require a brief discussion.

The most serious attack on forcing contracts is that of Mirrlees (1974). Its essence is very simple. Suppose output is really random, but the manager's effort may increase the likelihood of favorable outcomes and reduce that of unfavorable ones, as in (3). The planner's aim is to motivate the manager to exert himself, at the least cost to himself. A simple formulation would make him maximize the difference between expected output and bonus. He cannot observe the manager's effort, though he knows both the effect effort has on the distribution of output and on the agent's utility. The best-effort level to which he can aspire is the Pareto optimum level, at which the monetary value of the marginal disutility of effort equals the expected marginal product of effort (and this is an outcome which is not usually available in the asymmetrical information environment of the agency model). It is easy to show that the manager's first order conditions can be utilized by a proper coupling of non-fulfillment punishment with a probability of non-fulfillment (by fixing the right target) to lead to any desired input of effort, including the Pareto optimal one. Suppose you provide the agent with the Pareto optimal payment if he fulfills the plan, and with a punishment and target that together lead to the Pareto optimal effort: as the target is reduced and the punishment is increased, the weight of the punishment in the manager's expected utility declines and vanishes in the limit.<sup>(13)</sup> If the punishment is increased without bound and the target reduced, so that the probability of its ever being unfulfilled and the punishment every being actually used recedes to zero, then the first-best Pareto optimal solution, impossible to reach in general, is achieved. Osband (1987) calls this policy "speak softly but carry a big stick."

If Mirrlees' solution is so efficient, why is it not more commonly used? Not even during the Stalin period, when very severe punishments were often meted out to those who were in charge of unsuccessful enterprises, Osband's

big stick was wielded, and quite frequently. Stalin did not speak softly, in spite of his big stick. A theoretically optimal policy which is not utilized in practice may imply that some of the basic assumptions may not hold in reality. This is why often theoretical studies of the principal-agent model explicitly exclude unbounded incentives (Holmstrom 1979). The change required is to recognize that in real-life situations it is often the case that no amount of exertion by the agents completely remove the possibility that the worst event might happen. Any target, even the lowest one, may still leave some finite probability that the agent, for no fault of his own, may be severely punished. An unbounded punishment under such circumstances will violate the manager's rationality constraint (Grossman and Hart 1983, Keren 1991).<sup>(14)</sup> Once this is the case the first-best solution again recedes, and the forcing contract has to vie for acceptance against all other incentive schedules.

The forcing contract has also been attacked on the opposite grounds-- not because it is too efficient but because it is not good enough. Liu (1986) showed that if you constrain the underfulfillment punishment to be fixed at some low level, the optimum incentive schedule for above-target output does not allow a jump in the target. The two-step payment schedule of Figure 1 is not an optimal one. Liu's motivation to enter the fray seems to have been the feeling that there may be something unique about the incentives used in the Soviet sphere. This is not at all the case. Any hierarchical organization has to provide incentives for compliance with orders; the Soviet planning hierarchy is no exception. The question Liu raises is, however, a valid one. Under what assumptions, except those stated by Mirrlees, can a jump in the incentive schedule be justified?

I have already attempted to respond to this challenge (Keren 1991). The basic assumption is that incentive schemes in any large hierarchy must be simple and cannot be tailored specifically to the tastes of each of the agents. When a new manager replaces an old one, the whole incentive system cannot be shaped anew. The upshot is that only two or three parameter incentive systems are eligible for such mechanisms, and only two families of such mechanisms are pitted against one another: linear functions and forcing contracts. Liu's paper can be seen as a plea for the linear system. Proposition 5 in Liu's paper shows conditions under which each of the two families of functions performs best. The conditions pertain to the effect reduces the manager's exertions have on the density of distribution of output (see Figure 5). (Figure 5 omitted) The figure shows two alternative  $f_{\text{sub } a}$  curves, where  $f(q,a)$  refers to the density of output and  $a$  to the manager's effort. As stated above, effort the probability of bad outcomes (that is,  $f_{\text{sub } a}$  is negative at low outputs) and increases that of good outcomes ( $f_{\text{sub } a}$  is positive at high output levels). This is why  $F_{\text{sub } a}$  is non-positive in (3). Where is the main effect? If the effect is to reduce the likelihood of only the very worst cases and improve only that of the very best (AEFGHD, the dotted line in Figure 5), then there always exists a linear incentive scheme that will dominate any forcing contract. If, however, the likelihood of all poor cases is reduced, and that of all good cases is improved (as in the broken line ABCD in Figure 5), then a forcing contract will be the best.

The simple forcing contract can be used only to elicit managerial effort. It neglects entirely the planner's essential need for information on future outputs. Another line of enquiry dealt with information elicitation schemes: can an incentive contract and a message-exchange protocol be devised that will lead enterprises to convey their true production intentions, or their true input needs? See, for example, Fan (1975), Bonin (1976), Weitzman (1976): here it is shown that, on paper at least, the then newly proclaimed incentive system could lead enterprises to declare as targets their expected output.<sup>(15)</sup> Snowberger (1977) modified this result for the case of risk averse management, and for the existence of "hidden inputs" such as effort. Bonin and Marcus (1979) show that the existence of

effort may add the desirable characteristic of increasing the likelihood that actual output will be close to the target. Loeb and Magat (1978) show that the Weitzman-type incentives do not lead to an efficient allocation of inputs, and recommend a Groves-type mechanism instead. Thomson (1979), Conn (1979 and 1982), Miller and Murrell (1981), and Murrell and Miller (1984) continue this line of enquiry: the final conclusion is that the Groves mechanism will do if efficiency is all the planner is after, but not if other considerations, such as income distribution, are also of concern.

The static contract is, of course, a gross abstraction: many of the most severe dysfunctions of the Soviet incentives arise in a dynamic context because of the "ratchet."

#### DYNAMICS AND THE RATCHET

The "ratchet" is older than tautness, but in a sense it could come to full fruition only with the younger concept. This is because the ratchet is the means of transmitting tautness over time, of maintaining a similar degree of tautness under changing circumstances. Clearly, an incentive system which operates over time has to come to grips with changing environments which necessitate changes in the parameters of the incentive contract. Since information is asymmetrical, since present performance provides information to the superiors which may lead to changes in future remuneration, these changes affect incentives. This complex of problems, first brought to light during the Harvard Project of the 1950s, now occupies center stage in the dynamic P/A show. The term "ratchet," coined by Berliner in 1957 to describe the use made by planners to update targets with the help of information on capacity revealed through production, was termed "planning from the achieved level" by Birman (1978). The "ratchet effect" was used to denote the reaction of enterprise managers endeavoring to conceal capacity from the ratcheting planner. For many years these practices were thought to be aberrations of Soviet planners. They are now understood to be unavoidable ills of any large hierarchy, and found in many issues of recent theoretical journals in economics.

Did Soviet planners really employ the ratchet? Granick (1980) raised this question when a regression of current on past values of plan-fulfillment ratios showed a positive rather than the expected negative coefficient. When it was countered (Keren 1982) that the positive coefficient was the result of a simultaneous equations bias, an exchange ensued, (16) but current writings of agency theorists cast doubt on the relevance of this debate.

The first published models of the Soviet enterprise dealt with the ratchet. The early models had a simple (usually linear) planner's ratchet function. Any game in the model was a game against nature, of which the planner was a part. Targets were ratcheted upward (or downward) (17) in response to the relationship between planned and actual output (Gindin 1970, Leeman 1970, Yunker 1973, Snowberger 1977, Holmstrom 1982, Weitzman 1980, Keren, Miller, and Thornton 1983, Bain et al. 1987, Darvish and Kahana 1987). In Snowberger's (1979) model, the ratchet function was random. Yet, all these models examined the "ratchet effect," the reaction of the enterprise to the assumed use of the ratchet, not to the choice of a ratchet strategy by the planner.

The first attempt to include the planner's side of the ratchet game was taken by Freixas, Guesnerie, and Tirole (1985), which set the agenda and adapted the game theorists' terminology for the topic. A brief presentation of their (FGT) path-breaking contribution is indispensable.

Like all other studies of the ratchet, FGT take a minimalist two-period model. (18) Their principal, the planner, is faced by two sets of firms:

efficient, low-cost firms (type 1) and high cost ones (type 2), among which initially he cannot distinguish and both of which he wants to keep in operation. He sends managers to these firms, knowing only the prior probability of the type of the firm. FGT look for the best linear incentives, in both a static horizonless context and a dynamic context with a tomorrow.

Their Fundamental Second Best theorem in the static case is their Proposition 2: the optimal marginal bonus is below the marginal value of the out-put to the planner. The convex cost function, rather than the more common risk aversion is what leads to this result, which can be explained intuitively. Consider first the full information case: here a different contract can be set for each firm, tailored to its known type, and the planner can obtain all the surplus from both agents-managers. In the asymmetrical information case, both types of firm have to receive the same incentive schedule. This would leave neither surplus nor excess utility to the manager of the inefficient type 2 firm, but it would give a high excess to the manager of the efficient firm; a slight reduction of the marginal bonus reduces this excess benefit to the efficient type 1 firm, at the cost to the planner. This cost is a reduction of effort and total output below their full-information level.

In the dynamic case, the possibility of using the ratchet is subsumed under the title of credible commitment: the planner is unable to commit himself credible in the first period not to make use of any information which he may gain when production takes place. Looked at from the theorist's perspective, the use of the ratchet is not an aberration at all. It is the natural thing to do, since even if the incentive contract is not changed from period to period, it would be rational for the manager-agent to believe that it may be changed, and to react accordingly (to employ the ratchet effect). As a result, the planner has nothing to gain by abstaining from the use of the information he gains, and he will rationally use the ratchet. This argument makes the previously reported debate between Granick and myself somewhat superfluous: even though up to the present the planner may never really have used information on past output when fixing targets, it is quite rational for the manager to presume that he may do so in the future.

How does this presumption affect the manager? The way his selection of the level of output affects his well-being is by providing the planner with information which may lead him to identify the productivity of the firm. If we stick to the FGT example, it may affect the prior probability of the firm's having low costs. Only low-cost firms are affected, because only they can, by producing like a high-cost firm, perhaps lead the planner to believe that they may indeed be high-cost firms. If the planner becomes convinced that a particular firm is a low-cost producer, he will employ the ratchet and provide it with a full-information schedule which will leave its manager with no excess utility. The ratchet is a way of punishing the efficient. It may, therefore, be worthwhile for the manager to behave like a high-cost firm in the first period, take a present utility loss and reap the benefit of a higher reward in the second and final period. Such a simulating strategy is called pooling or miring behavior. Separating strategy would make each low-cost enterprise produce high quantities in the first period, thereby distinguishing himself from the high-cost producer. The in-between zone is occupied by a semi-separating mixed strategy, where the manager randomizes between the two pure strategies. The choice of strategy depends, of course, on the incentives which the planner provides. The higher the marginal bonus in the first period, the greater the proportion of firms, among those semi-separating, that opt for revelation (Lemma 4), and the greater the (unrewarded) output of the simulating firms (hence the smaller the distortion). Therefore, the two concluding propositions: Proposition 6 tells us that if the marginal bonus applicable in the static (futureless) model, leads to separation in the dynamic model

(to full revelation), then the dynamic first period bonus is no higher. Proposition 7 tells us that since a higher marginal bonus leads to more revealing behavior in the case of semi-separation and to higher output in the pooling case than where the static schedule is non-separating, the dynamic one should be higher than the static one. The addition can be seen as a cost of revelation.

The proof of the last proposition provides a linear marginal cost function with clear examples that for various sizes of parameters it may be optimal for the planner to provide the managers with incentives that lead them to either separating behavior or to pooling or even to semi-separation. A parameter of importance is the discount rate: Corollary 2 (to Proposition 6) shows that when the discount rate is low enough (when the present value of the reduction in future benefits which revelation leads to is low), then the static bonus is optimal in the dynamic first period. This leads to the second of the papers which I would like to mention.

Ickes and Samuelson (1987) pick up the thread of a low discount rate which leads to separation, and suggest that an announced policy of personnel transfers may serve to lower the effective rate by which the manager discounts the future: if he knows that he will not be there and, therefore, will not be affected by the revelation of the firm's true productivity, then future benefits to pooling, i.e., concealing true efficiency, vanish, and the firm will operate at its short-term optimum level. Job shifts entail costs: these are the forgone benefits of specific human capital. The gains through revelation will not be offset by these losses only if this gain is not too high. (19) These authors, like FGT, also limit the possible outcomes to a very small number (here 3) to facilitate the analysis.

The importance of the assumptions the previous papers made on the small number of alternative types can be seen when we compare them to Laffont and Tirole (1988), who allow for a continuum of different efficiencies. They concentrate on the ratchet effect (assuming, as has become customary, that commitment is unfeasible and the ratchet is, therefore, unavoidable). They prove that a fully separating equilibrium does not exist (Proposition 1): it will always be profitable to some agents to behave in the first period as if they belong to a lower efficiency class, so as to avoid the confiscation by the planner of the surplus they get as long as they are unidentified. There do not even exist intervals over which separation occurs. When uncertainty is not too great-when the differences in efficiency are relatively small-then it may even pay the planner if all agents behave alike. In this case, all enterprises, regardless of efficiency produce at the same (cost) level (Proposition 2). But even if enterprises separate, they separate into a **limited number** of types, within each of which there is no separation. (20)

Litwack (1988) adds the problem of coordination to the ratchet, and thus, in effect, unites the two separate strands of effort incentives and information elicitation. All other models focus on the behavior over time of the individual rationality constraint: the planner cannot commit himself not to change the contract in a way that makes this constraint effective, while the manager wishes to enjoy the slack in the constraint. The ingeniously simple way in which the need for coordination is introduced through an objective function where two complementary goods appear, makes it possible to ask a new set of questions. The first one is the shape of the static contract. As Litwack shows, this is derived directly from the way in which the two goods are related in the objective function. Thus, when the relations between the goods are of the Leontief-type, the resulting incentives will be a forcing contract. (21) The more important result is that coordination costs make it less profitable to the planner to lead the manager to reveal his type. Although the value of the information on the type is now greater, the value of the gain from above-target output

is now smaller, and it is the latter effect that predominates (Litwack, p. 20 and PLaffonte and Tirole, and Litwack, from quite distinct perspectives, show that under most reasonable circumstances pooling should predominate. This conclusion would be strengthened when a non-stationary environment were added which would make it even easier to the manager to stimulate. We, therefore, should not be surprised that we find the ratchet effect in many hierarchies. The real characteristics of the enterprise are being hidden from the planner in a way that does not allow him to use Bayesian rules to update his prior distribution. He may, however, sometimes use a rational expectations ratchet where an element of non-stationary in the environment is important. Only Baron and Besanko (1984) allow the cost function to shift over time, albeit within narrow confines (see below), but then they impose commitment. I provide below a brief outline of a model which allows a ratchet and in which it is capacity, rather than costs, that shifts over time.

Let output,  $q$ , be represented as a sum(22) of capacity,  $y$ , and the efficiency of its utilization,  $g$ :

$$q = y + g$$

where utilization depends on the manager's effort and on a random disturbance,  $\nu$ . In the simplest formulation  $g = a + \theta$ . As for the dynamic element, assume that capacity,  $y_{sub t}$ , changes from period to by a permanent shift element  $\pi_{sub t}$ :  $y_{sub t} = y_{sub t-1} + \pi_{sub t}$ . Then

$$q_{sub t} = y_{sub t} + g_{sub t} = y_{sub t-1} + \pi_{sub t} + \theta_{sub t} + \alpha_{sub t},$$

Assume a steady state, where  $a_{sub t} = a_{sub t-1}$ . then

$$q_{sub t} - q_{sub t-1} = \pi_{sub t} + \theta_{sub t} - \theta_{sub t-1},$$

a formulation which is reminiscent of that of some statements of the permanent income hypothesis (see below).

In the environment described above, one descriptive of those faced by superiors in many hierarchies, including CPEs, it may be important for the planner to know the capacity  $y_{sub t}$ , for various reasons—to design an incentive contract, for example. Such a contract must be a function of  $q_{sub t}$ , the only variable which is observable by both planner and manager. Can this contract be stationary, one that does not take into account any of the changes in the environment? Baron and Besanko (1984) examine such a stationary contract (dynamic model with full commitment). In their specification, the inter-temporal changes in  $y$  (iota in their model) are limited and their random cost is constrained to remain within the same support throughout their planning time period. Baron and Besanko are, therefore, able to promise their agent the highest rewards—those which assume the least  $y$  (or, in their case, the highest cost,  $\iota$ ). This would not be possible here. The planner may require information on  $y_{sub t}$ , that is on  $\pi_{sub t}$ , because otherwise  $q_{sub t}$  may be so low and the manager's share,  $s(q_{sub t})$  may decline below the manager's participation constraint. On the other hand,  $y_{sub t}$  may climb and provide the agent with "unreasonable" windfall gains.

I observe above that the stochastic structure of  $q$ , is very similar to that of permanent income: both stochastic processes contain a permanent disturbance, here  $\pi_{sub t}$ , and a transitory one, here  $\theta_{sub t}$ . To find a rational expectations estimate of  $y_{sub t}$  and  $q_{sub t}$  we can, therefore, follow Sargent (1979, pp. 308-322). It can be computed that a ratchet parameter

$$r = VR(1 + 1/4 VR)^{1/2-1/2VR}.$$

where  $VR = \text{Var}(\pi)/\text{Var}(\theta)$ . Observe that  $r$  is an increasing function of  $VR$ , with  $r=0$  for  $\text{Var}(\pi)=0$  and  $r=1$  for  $\text{Var}(\theta)=0$ . In other words, when a sub  $t = a$  sub  $t - 1$ , then

$$E q_{\text{sub } t} + 1 I_{\text{sub } t} = E q_{\text{sub } t} I_{\text{sub } t - 1} + r\{q_{\text{sub } t} - E q_{\text{sub } t} I_{\text{sub } t - 1}\},$$

where  $E q I_{\text{sub } t}$  denotes the rational expectation of  $q$ , given the information at hand at  $t$ . We, thus, have a linear ratchet parameter, the outcome of a rational expectations estimation. This is not to say that  $r$  estimated in (5) is an optimal ratchet parameter, because of the ratchet effect: since the latter would lead to a reduction in  $a$  for all  $t$ , the optimum ratchet may be smaller. It seems to me, however, that given the environment assumed above, some exercise of the ratchet is unavoidable.

The solution concept of this model is much less elegant than the Bayesian Perfect Equilibrium used in FGT, Litwack and Laffont and Tirole. But then the "type" of the enterprise in it is in permanent flux, with identification a continuous process. As FGT and their followers show, in many cases the strong requirements which the application of Bayes' rule sets make it impossible to apply. In these cases the rational ratchet may still be of use. (23)

#### FROM THE ECONOMICS OF SOVIET PLANNING TO THE ECONOMICS OF BUREAUCRACY

The march toward the market has become the declared aim of most ruling elites throughout the previous Soviet bloc, even if a snail may outpace the great majority of the marchers. Has the relevance of tautness and the ratchet gone with communism? Is it just an historical interest that draws us back to examine the workings of the old system? In typing up the loose ends of this review, I wish to show the present-day relevance of the concepts devised by the pioneers of Soviet economics.

I believe that it is now widely agreed that it is neither ideology nor historical personalities that distinguished the economies of the Soviet sphere. The main defining characteristic of Soviet-type economies was their hierarchical-bureaucratic structure, and the concepts of tautness and the ratchet that this review has focused on are of great relevance to hierarchical organizations. Every hierarchy per force develops rules of action, rules-of-thumb, that turn it into a bureaucracy with sets of inflexible procedures. The difference between most other hierarchical organizations and the Soviet one is that the others are often rooted in markets, and are judged by their performance relative to like hierarchies. The firms that compete in markets are, after all hierarchies, each with its distinct bureaucracy, and the ones with fewer handicaps survive. State hierarchies have no such competition: it is the enormity of its size, even more so the enormity of their tasks, that disadvantaged them in general, and the Soviet hierarchy in particular. The symptoms that afflict all hierarchies were easier to diagnose in the largest and heaviest member of the set, the one that grew so big to become a caricature of itself: the blemishes, warts and moles grew disproportionately.

The trailblazers of Soviet economics in the days which followed the Second World War saw these enlarged moles through holes bored into the iron curtain. One cannot help but be amazed at the wealth of information and the depth of insight the profession has gained from their research. It is true that the ideas of the command economy were already current in the German school and that Western wartime experience of command sectors in controlled market economies was beginning to be published. But the early pioneering studies allowed us to see both the nuts and bolts of the allocation mechanism (e.g., Bergson 1964, Levine 1959 and 1961, Berliner 1955 and

1959, Granick 1961, Grossman 1953 and 1959, Montias 1962) as well as the theoretical interrelations between all these nuts, bolts, and pulleys that make up the system (the above and, e.g., Montias 1961).

Many of these findings were based on the first interview project, the Harvard Project. The emigration wave from the Soviet Union during the 1970s and '80s has made possible the Soviet Interview Project, SIP. The collapse of the old regime and of the iron curtain has opened the region to quite open research, at the very time it is crumbling away. The old sense of discovery is gone: so little that is new seems to be coming out, so much that is known is being confirmed. This is not the interviewers' fault: Berliner (1988) and Linz (1987, 1988) show that very little has changed in the way the Soviet economy was run in the 1970s and '80s, and the way it was run 40 and 50 years ago. And this confirms that the skepticism of many of the commentators throughout those years (Schroeder 1972, 1979, 1982; Grossman 1996) was quite justified: the various steps of reform did not achieve any significant changes in the way the economy was run. And the reason is clear: the economic organization has not changed, it has remained a monofirm governed by the same bureaucratic hierarchy.

Kornai saw one aspect of this hierarchy: it is the fact that each enterprise is but a part, a unit of the monofirm. Being a part of the giant hierarchy is what softens its budget constraint. Kornai's hierarchy is a provider of financial means to its enterprises. But the hierarchy is also active in moving physical goods around the economy, in providing and rationing physical resources. This is an aspect Kornai disregards in his shortage economy: there the hierarchy is not a provider of supplies to its enterprises, and the latter are not subordinate to their superiors when it comes to the disposal of the goods they produce. He tries to model the flow of goods as though the enterprises are entirely self-regulating, have their "normal" levels of activity, their "normal" stocks and their normal queues. It is this self-functioning control mechanism that cannot regulate itself because it is unstable. And this is what forces us back to the only possible alternative, to the hierarchy as a regulator of flows.

Agency relations are the imperfect analytic tools which we use to analyze the means by which various levels of the hierarchy control their subordinates, albeit in a limited and imperfect manner. Tautness arises in these relations: the forcing contract is the super-ordinate's tool of compelling the enterprise staff to supply their part of the bargain, to limit the manager's rent to his alternative wage, while supplying a reasonable degree of effort. Tautness is easily discerned in forcing contracts, in incentive schedules which consist of the triplet, target-carrot-stick. It is more difficult to see in, say, linear contracts. But even there it exists in a hidden way, possibly in the constant (which may be negative), in the marginal share, which, if high, puts much of the uncertainty on the agent's shoulder. In real life it is found in implicit threats of dismissal, in winner-takes-all competitions for advancement.

The ratchet, since it has become such an integral constituent of dynamic agency contracts where commitment is not feasible, is already an accepted aspect of hierarchical life. Its costs are obvious, but are also clearly unavoidable: they are part and parcel of the hierarchical structure. The choice of such a structure condemns the organization to bear them. The full extent of the costs is not yet clear, because they surely grow rapidly with the number of levels of a hierarchy, with its the span-of-control in each level, i.e., with its size. If hierarchies are nevertheless formed, they must also provide the organization with some advantages, e.g., they permit it to be a large coordinated organism, to reap the advantages of scale (Keren and Levhari 1983, 1989).

It may seem that we have come a full circle here, from condemning the



Soviet monofirm for its size to claiming that size provides advantages. This ostensible contradiction arises only where there is no competition: markets determine the optimum size of hierarchies. It is only where markets cannot exist, or where they are stifled, that hierarchies may grow to be much too large, far beyond their optimal size. In these cases they display openly the dysfunctional behavior, of the type attributed to the Soviet bureaucracy.

This also explains why there is no alternative to large-scale privatization of the state sector in Eastern Europe. Those parts of the old state sector that should not be discarded for reasons of comparative (dis)advantage and should stay alive, and also possess economies of scale—from basic materials (metallurgy and plastics) to pesticides and pharmaceuticals—cannot easily be recreated by small scale new entrepreneurship. But if they remain in the hands of the state and are assured of their continued existence, i.e., if their budget continued to be soft, they will not really be exposed to the kind of competition that destroys unsuccessful hierarchies, those that employ tautness and the ratchet in an inefficient manner. This is where privatization comes in. But privatization is no simple matter—and lies beyond the confines of this review.

#### NOTES

1. Hunter mentions hidden reserves several times, whereas Arrow (1986) talks of "hidden actions." As far as incentives are concerned, the effects of the two are similar.

2. See also Hunter (1984) and Levine (1983). Ickes (1986) tries to relate macro to micro-tautness. There is a hidden assumption here, namely that reserves do not grow along with the tautness of the targets.

3. Which was avoided in the description of the market economy under excess demand for many decades. But then the assumption was always that shortage was a temporary phenomenon.

4. It should be clear that the present argument with Kornai's shortage is quite distinct from the debate between him and the disequilibrium school (Portes 1989, Hare 1989, van Brabant 1990, and others), though some connections between the two can be found.

5. See Davis (1988). Arguably, a second economy presupposes an administered first economy. But EOS denies that it is the activities of this first economy that are responsible for shortage. A tolkatch may belong to the world of Kornai's (1983) comments on the Hungarian economic reform, but not to that of EOS.

6. See Hare (1982, pp. 414-15) for a clear statement why  $\phi < 0$  is necessary for stability. In his case  $\phi'$  is a constant. See also van Brabant (1990, p. 165).

7. Hare, in his discussion of Kornai's shortage model, uses the central authorities as those who react to increases in shortage above the acceptable level (1989, p. 57). In this, I believe, he differs from Kornai.

8. And this bonus may come from sources other than the general bonus fund, whose principles of disbursement may not be identical with those of the latter and need not be public knowledge. There were times when the disbursements from the GDR Bonus Fund were to be based mainly on profits, while managers' bonuses were to be based mainly on the fulfillment of physical tasks (see Keren 1973a, p. 144f, and 1973b, p. 566).

9. This facile view has apparently been taken by some of the reformers (or "perfecters of the national economy") who have tried to change bonus

regulations without changing the mode of operation of the hierarchy. The "new Soviet incentive system" (analyzed by Weitzman 1976) is an example: this is an attempt to tamper with accessories of the mechanism, while leaving its essence, e.g., the ratchet effect (see Section 4 below) unchanged. The result is, of course, that the new system has no visible effect on the way the economic agents operate. When researchers said that the manager could be seen as a maximizer of bonuses, it was mostly the discounted lifetime income they meant.

10. Berliner's comments at the Hunter Conference include a brief discussion of the possible grounds for the dissolution of a Soviet enterprise.

11. Linz and Martin (1982) focus on input supply uncertainty, and show that an increase in the randomness of supply raises the demand for inputs.

12. The first use of term tautness in a theoretical study, as far as I know, is in Portes (1969). But the context there is different: it has no output targets in it, and tautness there is a measure of the scarcity of inputs. Linz and Martin (1982) use a similar approach. Keren (1979) tried to show that the deviation of the output mix from the planned one can also be blamed on increasing tautness.

13. A necessary assumption for this result is the monotonic likelihood ratio property (MLRP) of the density of  $F(q,a)$  if  $(q,a)$  is increasing in  $q$ .

14. In other words, the MLRP of footnote 14 is not a sufficient condition: if there exists an atom of probability of the worst event, the least  $q$ , regardless of effort, then an internal optimum forcing contract does exist.

15. See also (Keren 1973b), where a similar incentive schedule for the GDR is described.

16. See Granick (1983), and Keren (1982 and 1983).

17. Berliner clearly intended to point to the asymmetry in planners' behavior: the ratchet does not usually turn downwards.

18. I shall argue later on that this does introduce a bias into the results.

19. It is true that imminent transfer may make a manager less interested in the long-run prospects of his present enterprise as far as future targets are concerned. But the manager in the model is only the representative of the senior staff of an enterprise, not a single person, because a single person is very limited in the way he can affect output. This may weaken somewhat the relevance of the Ickes-Samuelson argument. In a subsequent paper, the same authors with Dearden extend their model to include incentives to innovate (Dearden, Ickes and Samuelson 1990). This paper lies beyond the confines of my subject.

20. See also Caillaud et al. (1988), for a comparison of various models, with and without commitment.

21. That is, if equation (15), missing in my copy is what I assume it to be.

22. If we take these lower-case letters to stand for logarithms, then the capitals would say  $Q=YG$ , perhaps a more convincing formulation, but much harder to work with.

23. The non-stationary environment of this paper underscores another point: the time span of these models is also of relevance. This is because as one moves away from the starting point, where the planner's information may

coincide with that of the manager, the importance to the planner of the information regarding the type of the enterprise grows, and it may become increasingly worthwhile to him to sacrifice some efficiency in return for knowledge on, say, capacity, i.e., to employ the ratchet.

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DESCRIPTORS: Bureaucracy; Economic theory; Economic models; Studies; Incentives

CLASSIFICATION CODES: 1130 (CN=Economic theory); 9130 (CN=Experimental/Theoretical)

...TEXT: clearly can not be of any relevance in this context. Kornai uses a queue to **allocate** available supply to potential **buyers**. Since the queuing model is an essential link in the logic which closes Kornai's ...the same (cost) level (Proposition 2). But even if enterprises separate, they separate into a **limited number** of types, within each of which there is no separation.(20)

Litwack (1988) adds the...

?



3/7,K/15 (Item 4 from file: 148)  
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Government asks securities firms to restrain NTT share orders. (Nippon  
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International Bond Issues, US dollar straights, Asian Development Bank  
Euroweek

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TEXT:

Rating: Aaa/AAA

Amount: \$2bn global bond

Maturity: May 19, 2003

Issue /fixed re-offer price: 99.342

Coupon: 5.75%

Spread at re-offer: 27bp over the five year UST (price talk 26bp  
to 28bp)

Launched: Wednesday May 13

Joint books: Morgan Stanley Dean Witter, Nomura, SBC Warburg  
Dillon Read

Borrower's comment:

It was important for us to get a benchmark into the **market** which  
had product parity with our peers and there is no question that  
this is a similar deal to look at in terms of its liquidity and  
its capability to be used as a Treasury surrogate.

As the situation has developed over the past few days, the shine  
has gone off some of this year's jumbo issuance. We saw spread  
performance in issues by the World Bank and Fannie Mae fall off a  
little. Indeed, with the exception of some of the smaller, more  
retail driven Eurobond issues in dollars, spreads generally have  
widened somewhat.

The Asian Development Bank prides itself on being a user-friendly  
issuer and we wanted to produce a deal that was launched and  
delivered to clear.

At the best of times, our deals have been priced flat to the  
World Bank but more typically they have been 2bp to 3bp back. As  
we got closer to launching this deal, a wider spread was clearly  
required and we began premarketing the deal in Asia at a spread  
of 26bp to 28bp over Treasuries.

We listened to what maturity the **market** wanted. We felt that five  
years right.

We also started off with a \$2bn to \$3bn size range - any talk of  
\$4bn was wishful thinking by the banking community - and, given  
the continuing turmoil in Asia, we opted for the smaller end of  
the range.

We looked at the deal today (Wednesday) and saw the spreads of our peer group continue to widen, the World Bank and Fannie Mae transactions **trading** out by a basis point and, in those circumstances, refined the spread to 27bp over - 6bp over the World Bank.

We were **oversubscribed** at 27bp and are quite happy with the transaction, notwithstanding the current perception of Asia. The deal is holding its re-**offer** spread and we had broad interest, split roughly 35% non-Japan Asia, 18% Japan, 30% Europe and 17% US.

The lead group worked extremely well together. We have done many three handed benchmark deals and although this issue was done under remarkably difficult circumstances, the bookrunning team worked as one.

It wasn't an easy process but they delivered a successful and broadly distributed transaction. And we have received excellent support and sponsorship from the co-leads.

This was not only a transaction for the ADB. If the ADB and its credit credentials cannot deliver a successful transaction, then what can you expect Asia to do? The issue has been completed successfully, and we hope that may help to change the psychology towards Asian debt in general.

We have not left a stone unturned in terms of investor contact to make sure everyone thoroughly understood our credit. Combine that with the solid support of a great syndicate, in particular the joint books, and I think you can say we have shown that a credit with Asian connotations can be a very viable commodity.

The fact that we have also done a **market**-friendly transaction will hopefully help the additional funding we have to do going forward and encourage other borrowers from Asia to be open and transparent in their fund raising activities - a trend that started with the recent Korea transaction.

The distribution and the quality of accounts in the deal is very high and we are in good shape. There should be a lot of room for performance relative to the sector, which is what we aimed for.

The **market** has continually asked us for larger transactions and more frequent issuance of benchmarks to build up a yield curve of investments.

In the past we have not had the funding requirement needed to do that. Going forward we expect to have the necessary funding capacity and, certainly for the next two to three years, we will be able to sustain our **market** presence to assure investors they will have continued supply of product.

Strategically, we have tried to sustain a US dollar global bond programme and we were the first MDB to do a euro-fungible transaction in benchmark size.

Amidst all that is happening in Asia we have a lot of work ahead of us, but we are proud and confident of our credit credentials. With the kind of cooperation we received from the investment

banking community for this transaction, we believe there will be a time when we get back to the level where we should be priced - at the tighter end of the level of our peer group.

Our 1998 funding needs are \$9.5bn. If there is an additional need for a quick loan disbursement, we can increase the programme but there is no indication as yet that we will need to do that. We will carry out a mid-year review which will allow for further clarification. We have a \$3bn ECP programme and may bridge \$2bn of the \$9.5bn into next year.

At this juncture, our borrowers are looking at dollar products. We need about \$1bn equivalent in yen on the basis of cash management requirements or refinancing cashflow requirements. We also have plans to build up a yield curve in euro core currency fungibles or euros which will be swapped back into dollars. The rest of the funding is likely to be in dollars.

Given the circumstances, we are pleased with the spread we achieved over our peers and, if and when perceptions change towards Asia, we will start heading closer to World Bank spreads.

What is important is that we can use this transaction as a platform and a model of how we will access the **market** going forward.

If we can repeat the excellent support of the bookrunners, the way in which we put this deal together, and the preparation that was put into it, we will have hopefully achieve equally successful funding in the **future**.

Bookrunners' comment:

MSDW - The key concern was to bring a deal that worked. The idea of doing size for the sake of it was not an issue. We were aiming for a benchmark transaction and we clearly achieved that - at \$2bn, this is by far the biggest single transaction the ADB has done.

It was extremely responsible to size the issue in the \$2bn to \$3bn range that we went out with and, by listening to the marketplace, to finally bring it at \$2bn.

The message is that the ADB has managed to get a large benchmark transaction done in an environment which is obviously not the most optimal.

To get its very strong credit message across, to the extent that they can issue \$2bn at a tight spread to issuers like the World Bank in an environment where spreads are under pressure and the Asian background is less than ideal, is a great achievement.

There was a strong reliance on distribution to Asia but not a total reliance.

A lot of interest was generated in the US and Europe from the roadshow and marketing efforts and that has been rewarded by people getting involved in a serious way.

The ADB was able successfully to differentiate themselves from the Asian environment by stressing the inherent credit qualities of the bank and proving that they are in the top tier of

supranational borrowers.

The fact that the joint leads between them had basically accounted for the entire deal at the break of syndicate is testament to that and to the fact that the deal was sized correctly.

Morgan Stanley's bonds were distributed 38% in the US, 37% in Asia, and 25% in UK, Europe and the Middle East. Sales were all institutional to accounts attracted by the liquidity and by the relative attractiveness of the spread. There was broad sponsorship from central banks. Between the three of us, we managed to involve every significant central bank out of non-Japan Asia.

In the US, a broad range of institutional buyers - banks and funds - took sizeable tickets in the deal, and most of the purchases were for cash or against Treasuries on a spread play.

The deal was priced at plus 6bp to the World Bank and now trades at plus 5.5bp as the World Bank has widened to 21.5bp. We are still 27bp bid and there are significant bids away from us at 27bp.

Given that the co-leads in the deal gave the name of their investors to the ADB and we were short going into break of syndicate, it was clear that any flowback we did see was from people setting up short positions.

There was a great deal of transparency between the three joint leads.

We all had a clear perspective on the deal which we were happy to discuss between us, and there was a lot of transparency on the book to make sure it was of the highest quality. The deal was handled very much on the lines of the system we would like to see going forward.

Nomura - This is the ADB's largest issue to date and its first foray in the public markets since the beginning of the Asian crisis in October 1997.

The transaction had been extensively premarketed throughout Asia, Europe and the US with a substantial orderbook having been built in all three time zones prior to the bond's launch.

The spread of T+27bp was formally announced on Wednesday at 9.30am London time at the tighter end of the indicated range, with pricing taking place at 3.20pm London time following the announcement of April CPI in the US.

The borrower and the joint bookrunners paid careful attention to the preparation and the strategy for the **offering** to ensure a truly successful reception. In addition to previous investor relations work, the ADB and the joint leads co-ordinated an extensive roadshow across Europe, Asia (Bangkok, Hong Kong, Kuala Lumpur, Singapore and Taipei) and Tokyo with conference calls being made to US investors. Nomura focused on the Asian leg including Japan.

The roadshows were highly effective in conveying the ADB's strong

credit relative to other supranationals, reflecting the issuer's strong financial ratios, low leverage and comparatively low exposure to the private sector in Asia.

The issue has achieved genuine global representation with complementary distribution among the lead managers across all three time zones. The issue's term, size and pricing reflected demand and the feedback received during the roadshow. Strong Asian price leadership was seen following the issue's launch in Asia with the deal being **oversubscribed**. This resulted in a strong order book composed of the highest quality accounts.

Nomura's **primary** placement was Japan 27%, non-Japan Asia 45%, continental Europe 6%, UK 15%, Middle East 4% and the US 3%. Central banks and government institutions accounted for 53% of our book, IMGs and funds 21%, bank portfolios and trust banks 16% and insurance companies 10%.

Nomura's **primary** placement amounted to \$630m compared with an allotment of \$550m and the other joint leads were also **oversubscribed**. As we allotted only \$300m and the group disclosed the names of their clients to the issuer, we were surprised by the amount of flowback through the broker after break of syndicate.

We bought nothing back from our clients and can only surmise that a number of shorts were set up. This theory is borne out by the fact that this morning there was a bid away from the leads for \$50m in the brokers.

The transaction's success reflects the ADB's strong credit relative to other supranationals as well as the use of the global format. The spread has been maintained at 27bp over and we expect the issue to perform well in the **secondary market**.

SBCWDR - The issue has been successful due to the very sensible approach taken by the borrower and the lead managers by being flexible about the size and pricing and receptive to investor feedback.

It was also the result of extensive work put in by the ADB in roadshowing in Europe, the US and Asia which made investors aware of its credit quality and gave them confidence in investing in the deal. The ADB's hard work paid off handsomely.

We had been working on the deal for some time. The events in Asia during the past week caused the ADB and the leads to set the size of the deal at \$2bn, a size which we were confident would be comfortably subscribed.

A very sensible approach was also taken to pricing. The bond was priced at a spread over the World Bank at which investors indicated they would be happy to subscribe for bonds.

Although the ADB is intrinsically an impeccable credit and the Asian troubles should cause little concern regarding its credit quality, recent events in Asia clearly had a negative impact on the deal.

But the hard work and pragmatic approach of the ADB meant it received more than sufficient sponsorship from investors to ensure a very successful transaction.

Our demand was split roughly 45% Asia including Japan, UK and Europe 45%, Middle East 5% and the US 5%.

Our list of clients included most of the Asian central banks, some Japanese life companies, trust banks and funds participated, European central banks, IMGs and funds. At pricing, we were sufficiently **oversubscribed** to **allocate** bonds to those clients that will provide a strong backbone to the issue.

There was some flowback after the break and we soon realised that a lot of people were shorting the issue rather than it being the result of selling by the investor community or the co-lead group. This point was proven the next day when the issue was not only strongly bid in the street at its re-offer spread but customer demand also increased.

The issue is very stable at 27bp. The joint leads are running near flat or small short positions and we are very confident in the **future** performance of the issue.

**Market** appraisal:

"... the ADB is a wonderful credit with very strong financials. The difficulty was the growing crisis in Asia. It was an unfortunate background as at the time they were trying to **market** their bond.

We sold our ticket into Asia at the beginning of the week into high quality accounts which took us short and we have been joining the leads on the bid to cover our short. The leads bought back some \$450m of bonds after syndicate broke.

I am not convinced the deal will be actively traded because of its difficult birth and I imagine the leads are unhappy about the flowback - but that was not surprising given the growing concerns about Asia.

They downsized the issue size and widened the price talk. When they started this process Asia was not seen to be such a problem. They were hoping to do as much as \$4bn and certainly at a tighter spread but they made the best possible job out of it in difficult circumstances. I think 27bp was the best price they could have got out of the **market** place at the time.

The ADB is a terrific credit but they suffer unfairly because of geography.

I am sure their spreads will tighten. It is just a matter of getting Europe to understand the credit better and for firms to get out there with credit research and push the name."

"... we had no difficulty selling substantially more than our ticket and placed bonds in Asia, Europe and US. The tickets were fairly large and to high quality accounts.

The borrower was brave and correct to acknowledge the difficult conditions which were beyond their control. It was overly ambitious to **market** at \$3bn to \$4bn to begin with, with the implied intention of doing \$4bn.

That would have been a risky strategy when current sensitivities over Asia meant that it was never going to be clear how much

appetite there was for the name. It is not simply a case of the price at which \$4bn of ADB paper could clear the **market**. There simply wasn't sufficient demand for \$4bn and the borrower made a tactical mistake in talking of the bigger size to start with.

But they have made the best of a difficult **market** by downsizing the issue and widening the spread and the deal is in much better shape than the number of bonds sold through the broker indicates.

We are strong supporters of the credit, which sometimes unfairly gets a rough ride. If they had paid 8bp over the World Bank, the deal would have been a bunfight. Instead they have a deal which, although it got done, was certainly not a blow-out."

"... we are not in the deal but we are aware that some very aggressive switches had to be done to get it away, in particular accounts being asked to sell the World Bank 2003s at 17bp when they were **trading** 20.5bp to buy the ADB at 27bp.

They were unfortunate with the timing because as a credit they are unfairly tainted by the problems in southeast Asia.

They tried to get a bigger deal priced in the low to mid 20s but even at 6bp back of the World Bank, they didn't pay enough because of investors' concerns about southeast Asia.

When they came out with a smaller transaction priced wider than anticipated, the **market** just smelt blood in the water and shorted the hell out of the bond. Some \$450m went back to the leads through the broker."

"... we sold our ticket on an outright basis right out of the gates into the US to two US fund managers who were keen to participate in the deal because, at 27bp over, the bond **offered** a substantial spread over the US agencies and/or supranationals.

I doubt there was significant demand in Europe. We did not see any, although there was good demand from Asia.

The issuer was very responsible

(c) EUROMONEY ELECTRONIC PUBLICATIONS All Rts. Reserv.

TEXT:

Rating: Aaa/AAA

Amount: \$2bn global bond

Maturity: May 19, 2003

Issue /fixed re-**offer** price: 99.342

Coupon: 5.75%

Spread at re-**offer**: 27bp over the five year UST (price talk 26bp to 28bp)

Launched: Wednesday May 13...

...Read



Borrower's comment:

It was important for us to get a benchmark into the **market** which had product parity with our peers and there is no question that this is...

...at a spread  
of 26bp to 28bp over Treasuries.

We listened to what maturity the **market** wanted. We felt that five years right.

We also started off with a \$2bn to...

...spreads of  
our peer group continue to widen, the World Bank and Fannie Mae transactions **trading** out by a basis point and, in those circumstances, refined the spread to 27bp over - 6bp over the World Bank.

We were **oversubscribed** at 27bp and are quite happy with the transaction, notwithstanding the current perception of Asia. The deal is holding its re-offer spread and we had broad interest, split roughly 35% non-Japan Asia, 18% Japan, 30...connotations can be a very viable commodity.

The fact that we have also done a **market**-friendly transaction will hopefully help the additional funding we have to do going forward and...

...of room for  
performance relative to the sector, which is what we aimed for.

The **market** has continually asked us for larger transactions and more frequent issuance of benchmarks to build...

...certainly for the next two to three years, we will be able to sustain our **market** presence to assure investors they will have continued supply of product.

Strategically, we have tried...

...use this transaction as a  
platform and a model of how we will access the **market** going forward.

If we can repeat ...that  
was put into it, we will have hopefully achieve equally successful funding in the **future**.

Bookrunners' comment:

MSDW - The key concern was to bring a deal that worked. The idea...and the joint bookrunners paid careful attention to the preparation and the strategy for the **offering** to ensure a truly successful reception. In addition to previous investor relations work, the ADB...

...price leadership was seen following the issue's launch in Asia with the deal being **oversubscribed**. This resulted in a strong order book composed of the highest quality accounts.

Nomura's **primary** placement was Japan 27%, non-Japan Asia 45%, continental Europe 6%, UK 15%, Middle East...

...and funds 21%, bank portfolios and trust banks 16% and insurance companies 10%.

Nomura's **primary** placement amounted to \$630m compared with an allotment of \$550m and the other joint leads were also **oversubscribed**. As we allotted only \$300m and the group disclosed the names of their clients to to perform well in the **secondary market**.

SBCWDR - The issue has been successful due to the very sensible approach taken by the...

...banks and funds participated, European central banks, IMGs and funds. At pricing, we were sufficiently **oversubscribed** to **allocate** bonds to those clients that will provide a strong backbone to the issue.

There was...

...day when the issue was not only strongly bid in the street at its re-offer spread but customer demand also increased.

The issue is very stable at 27bp. The joint...

...are running near flat or small short positions and we are very confident in the **future** performance of the issue.

**Market appraisal:**

"... the ADB is a wonderful credit with very strong financials. The difficulty was the...

...in Asia. It was an unfortunate background as at the time they were trying to **market** their bond.

We sold our ticket into Asia at the beginning of the week into... circumstances. I think 27bp was the best price they could have got out of the **market** place at the time.

The ADB is a terrific credit but they suffer unfairly because...

...to acknowledge the difficult conditions which were beyond their control. It was overly ambitious to **market** at \$3bn to \$4bn to begin with, with the implied intention of doing \$4bn.

That...

...simply a case of the price at which \$4bn of ADB paper could clear the **market**. There simply wasn't sufficient demand for \$4bn and the borrower made a tactical mistake...

...the bigger size to start with.

But they have made the best of a difficult **market** by downsizing

the issue and widening the spread and the deal is in much better...

...particular

accounts being asked to sell the World Bank 2003s at 17bp when they were **trading** 20.5bp to buy the ADB at 27bp.

They were unfortunate with the timing because...

...southeast Asia.

When they came out with a smaller transaction priced wider than anticipated, the **market** just smelt blood in the water and shorted the hell out of the bond. Some in the deal because, at 27bp over, the bond **offered** a substantial spread over the US agencies and/or supranationals.

I doubt there was significant...

**1998**

5/7,K/8 (Item 7 from file: 15)  
DIALOG(R)File 15:ABI/Inform(R)  
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01518290 01-69278

\*\*USE FORMAT 9 FOR FULL TEXT\*\*

Asia embracing international equity issues

ABSTRACT: Asian corporates have made increasing use of the international equity capital markets, with over US\$40 billion raised through some 250 offerings since 1992, and the volume of funds raised by Asian companies has climbed every year since 1992. The investor profile for each issue varies with the country, sector and size of issue, economic conditions and competing issues, and market sentiment from time to time. Initial public raising of equity normally occurs when a company's development and growth is restricted by the need for additional permanent capital or when shareholders wish to realize part of their investment, either at the time of flotation or later. Tapping international markets is normally feasible at the IPO stage only for larger flotations or where the business has specific features that attract non-domestic investors.

Anonymous

AsiaMoney Capital Raising Guide Supplement PP: 10-13 Sep 1997 ISSN:

0958-9309 JRNL CODE: AMF

DOC TYPE: Journal article LANGUAGE: English LENGTH: 4 Pages

WORD COUNT: 2073

...TEXT: base.

Japanese international investment was dramatically reduced in 1995 but new capital is now being **allocated** to Asian equities. Demand from Japan is volatile and sensitive to performance of the Japanese...can be raised internationally either at the time of an IPO, or subsequently once the **stock** is already listed and traded (a "**secondary**" **market offering**). The key difference between the two is that a **secondary** issue is always priced with reference to the prevailing **market** price, whereas an IPO involves judging the correct price to bring the issuer successfully to **market**. IPOs usually involve more complex regulatory issues, as **stock** exchanges generally have detailed requirements for a company to be accepted for a **primary** listing. In contrast, international **secondary offerings** are normally made in the Euro-markets where **offering** procedures are simpler and documentation reflects accepted **market** precedents rather than local regulatory restrictions. Timetables for an IPO are normally much longer than for a **secondary offering** - for a typical Euro-equity issue, a period between six and 12 weeks is needed...

... is set to maximize the proceeds for the issuer while also ensuring a healthy aftermarket. **Allocations** to investors are then made on the basis of objective criteria to assess the quality...

... and maximized for the issuer. A bookbuilt offering allows greater control over stock placement (as **allocations** of stock can be made on the basis of objective criteria) and it provides immediate...

5/7,K/11 (Item 10 from file: 15)  
DIALOG(R)File 15:ABI/Inform(R)  
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01173976 98-23371

\*\*USE FORMAT 9 FOR FULL TEXT\*\*

Gravy train gets bogged down

ABSTRACT: Competition is driving down the fees banks charge for running privatization issues. Last year's 3% is heading below 2%. Top firms argue that skimping on fees damages issue quality and, especially, after-sales service. But the same firms are cutting their charges to stay in the game. In January, Merrill Lynch won a mandate in Brazil as global coordinator for the privatization of mining conglomerate CVRD. The fee will be just 1.91% of the funds raised. The drop in fees is especially pronounced in emerging markets. Worse news for the banks is that the slide in fees will probably continue. Global coordinators blame each other for cutting fees. European banks are biased towards lower fees, complains one US banker. Those firms from countries used to fixed-price equity offers are accustomed to selling stock at a discount to the market and charging a low fee of under 2%. The total cost to the issuer is higher because it includes the discount and the fee. European banks have applied low fees to book-building deals, not realizing that fees ought to be richer because, in the process of maximizing proceeds, an arranger has to motivate its sales force as well as paying research and corporate finance staff. European bankers deny that they are leading fees down.

Lee, Peter

Eurmoney n322 PP: 40-43 Feb 1996 ISSN: 0014-2433 JRNL CODE: ERM  
DOC TYPE: Journal article LANGUAGE: English LENGTH: 4 Pages  
WORD COUNT: 4532

...TEXT: amount. If a firm encounters strong demand and sells stock way beyond its notional underwriting **allocation** plus its share of the green-shoe option [the syndicate's option to take more...

... are pursuing programmes. Investors can afford to pick and choose as never before. Many recent **offerings** have been marked by **stock** price falls in **secondary market trading**. Investors have less incentive to snap up shares in the **primary market**. The British government built up goodwill among domestic retail investors in the 1980s by privatizing companies at prices which allowed for share price appreciation in the after-**market**. Only later did they tighten up on pricing. Other governments have tried to jump into...process," says Amir Eilon. "If you do all that, you can extract enough information to **allocate** stock to quality buyers and price dispassionately." Last year's privatization of Pechiney highlights the...

...the rest of the syndicate, spent two months pre-qualifying institutions, grading them for favourable **allocation** depending on several criteria including how long they had held their existing investments in the...

02027170 SUPPLIER NUMBER: 03267829 (THIS IS THE FULL TEXT)  
 FTC ponders sale for orbital slots.  
 Broadcasting, v106, p80(1)  
 May 14, 1984  
 ISSN: 0007-2028 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT  
 WORD COUNT: 650 LINE COUNT: 00050

TEXT:

Commission suggests auction to distribute limited space capacity  
 Satellite applicants may have to pay for orbital slots, if a suggestion  
 made by the Federal Trade Commission is followed.

In a filing last week, the FTC said the FCC should consider using  
 auctions to **allocate** the **limited number** of slots. "If the  
 FCC allowed an explicit market to exist in the purchase and sale of  
 satellite orbital slots," the FTC said, "then market prices could adjust in  
 order to solve the 'problem' of **excess demand**."

The filing did not say where the proceeds from the auctions should  
 go, but an FTC spokesman suggested the federal treasury. That's where money  
 from oil and gas lease-auctions goes, he said.

In the past, satellite applicants have been awarded slots on a  
 first-come, first-served basis and have not been required to pay for them.

The FTC also suggested that the FCC auction the use of orbital slots  
 for a specified time period, such as 10 years--or (roughly the expected  
 life of a communications satellite".

In the past, the FTC said, the FCC has limited initial applicants to  
 two satellites and ruled that an applicant could be assigned any  
 alternative slot in the same band, thus reducing the number of potential  
 requests with which it had to deal, the FTC said. "In effect, the FCC  
 maintained the 'legal fiction' that all orbital slots were equal, when of  
 course from a technical and economic point of view some slots were clearly  
 preferable to other," the FTC said.

In an auction, "the slot would go to the party who bid the most money  
 and thus to whom the slot was most valuable," the FTC said. "The auction  
 would put an explicit price on the use of the slot... Finally, an auction  
 could make the slot available far faster at far less administrative cost  
 than alternative selection mechanisms such as comparative hearings."

In its filing, the FTC offered several other alternatives to  
 accommodate the excessive demand for slots, including decreasing further  
 the required distance between satellites from two degrees to one-and-a-half  
 or one-and-three-fourths degrees apart (BROADCASTING, Nov. 14, 1983));  
 allocating additional frequencies to domestic satellite use at frequencies  
 above 4/6 ghz, but below 18/30 ghz, and using lotteries to choose among  
 competing applicants, which permits "the winner immediately to resell the  
 orbital slot right to other." The FTC is against using comparative hearings  
 to choose among applicants and recommends that all petitions to deny filed  
 by competing applicants against other applicants be dismissed.

According to the FTC, lotteries would be preferable to comparative  
 hearings "because they would lead to faster authorization of new service,"  
 although the FTC said that the large number of applications generated by  
 such selection, may pose "significant problems." The FTC urged the FCC to  
 seek statutory authority from Congress, if necessary, to hold the auctions.

At least one satellite carrier was not impressed by the FTC's  
 suggestions. Ronald Stowe, vice president, government and commercial  
 affairs at Satellite Business Systems, called the FTC's analysis  
 "completely removed from practical considerations." He said an auction was  
 "unnecessary and it's close to being irresponsible. It's an  
 anti-competitive approach in which you're just asking for all these scarce  
 resources to be consolidated in the hands of a few rich companies," he

said. "It discourages small entrepreneurs, who may be quite capable of running a satellite system, but who don't have as much money as (corporation X,'" he said, adding that the FTC's suggestions amount to a "tax imposed on users of telecommunications... If you're going to do that, let's not camouflage it, let's deal with it as a tax," Stowe said.

Oversubscribed Recruiters public share offer to close early

Mark Todd

ABIX - AUSTRALASIAN BUSINESS INTELLIGENCE (AGE) , p2

November 22, 1999

JOURNAL CODE: WTAG LANGUAGE: English RECORD TYPE: ABSTRACT

WORD COUNT: 89

The \$A26m public offer in Recruiters Australia **Limited** is to close early after being substantially oversubscribed. Strong demand from retail investors, who have been **allocated** just 25% of the Recruiters Australia offer, and institutional investors has forced the issue underwriters, Hartley Poynton, to bring forward the closing date from 26 November 1999 to earlier in the week. The organisers of the Recruiters Australia float only offered a quarter of the available 26.2 million shares to retail investors due to the rush of small-cap floats hitting the Australian market recently.

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01844036/9

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01844036 (THIS IS THE FULLTEXT)

**Don't Toss Away Those Cards**

**(Collector market for phone cards in the US grows to between 10,000 and 25,000 collectors; internationally, the collector market is 2.5 mil)**

Card Technology, p 38+

May 1997

DOCUMENT TYPE: Journal ISSN: 0361-5561 (United States)

LANGUAGE: English RECORD TYPE: Fulltext

WORD COUNT: 817

**ABSTRACT:**

Between 10,000 and 25,000 phone card collectors now are buying cards in the US. Internationally, the collector market is 2.5 mil. With that many collectors (sales to collectors accounting for as much as 15% of the phone card market) card issuers have begun to take notice. Since collectors generally do not use the phone time on the cards they buy, appealing to card collectors can add to the profitability of any phone card program. According to Murray Church, publisher of MoneyCard Collector, a hobbyist magazine in Sidney, Ohio, serious collectors, which Church defines as those owning 100 cards or more, number about 10,000 to 20,000. Card collectors have higher average income than coin or stamp collectors, have higher education levels, and generally own their own homes and cars, Church says. The average income for phone card collectors is more than \$60,000, he says. Research by U S West finds that men dominate the phone card collector market. A survey the phone company did of its collectors' club found 69% were male, 31% female. Collector age splits fairly evenly among age groups 25-34, 35-44, 45-64, and 65 or older. Full text discusses the phone card collector market.

**TEXT:**

Phone card issuers can attribute part of their success to a small but devoted group of card collectors that has sprung up in the United States over the last five years. Between 10,000 and 25,000 collectors now are buying cards in the United States. Internationally, the collector market is 2.5 million.

With that many collectors--and sales to collectors accounting for as much as 15% of the phone card market--card issuers have begun to take notice. Indeed, since collectors generally do not use the phone time on the cards they buy, appealing to card collectors can add to the profitability of any phone card program. "A collector wants a card that's in pristine condition," says Scott Shapiro, co-owner of KARS Unlimited, Ormond Beach, Fla.

But marketing to collectors is not as simple as calling a given card "collectible." Rather, it involves knowing the market, knowing how to reach the market, and knowing how to design desirable cards. "It's a market that can be learned, and once learned, can be served to the benefit of the issuer," says Murray Church, publisher of MoneyCard Collector, a hobbyist magazine in Sidney, Ohio.

photo omitted

Randall Tada, telecard marketing manager with U S West, notes that revenue from selling to collectors "is high enough for us to stay in the business. We are turning a profit on it."

That market could be as large as 50,000 Americans if casual collectors are included, contends Church. Serious collectors, which Church defines as those owning 100 cards or more, number about 10,000 to 20,000, he estimates. Card collectors have higher average income than coin or stamp collectors, have higher education levels, and generally own their own homes and cars, Church says. The average income for phone card collectors is more than \$60,000, he says. Research by U S West finds that men dominate the phone card collector market. A survey the phone company did of its

collectors' club found 69% were male, 31% female. Collector age splits fairly evenly among age groups 25-34, 35-44, 45-64, and 65 or older.

Many collectors begin simply because they're intrigued by the novelty of phone cards. That's what attracted Alan Cohen. Back in 1992, he received a free 3-minute AT&T card with a Big Mac value meal. He liked the card so much, he went back to get more. Six months later, Cohen, working as a supervisor in Cornell University's library at the time, left a message on CompuServe asking if anyone was interested in buying his McDonald's card. He quickly had a \$125 offer. Cohen has grown into an Internet phone card collecting guru. His cardmall site lists roughly 40 phone card dealers and he e-mails a weekly card-collecting newsletter to 1,600 subscribers.

Collecting cognoscenti point to the 1992 New York City Democratic National Convention as the birthplace of phone card collecting in the United States. A \$1 complimentary card the then New York Telephone gave delegates soon became one of the hottest items in the world of collectibles.

Using the Internet to reach collectors like Cohen is a good strategy, since card collectors have a higher incidence of computer and online usage than do stamp or coin collectors, Church notes. Card distributors are another desirable channel. Church advises taking on more than one distributor to gain the widest possible audience for new phone cards. Indeed, U S West has decided to use both Shapiro's KARS and USACard Corp., Denver, to broaden its card distribution. A growing universe of card-collector publications is another viable marketing alternative.

Still, having products collectors want is, of course, the sine qua non of succeeding in the market. "Just put out nice cards," advises Klaus J. Degler, USA Card's president, noting that many collectors specialize in buying cards with similar images on them, such as airplanes or cars. Cards sporting corporate logos also are popular. One of the hottest cards in the collector market today shows a Burger King meal, Shapiro says. What makes it hot is that, besides the Burger King logo, the cup pictured has a Coca-Cola logo and the fries carton shown has a Disney Toy Story logo on it, a logo triple play for collectors. A \$5 Cracker Jack card issued roughly five months ago is now fetching \$35 to \$40 on the collector market, adds Degler.

Issuing special "collector" cards generally turns off collectors, Church and other agree. But holding back part of an issue for the collector market can work. U S West generally holds back around 10% of a card issue for collectors, Tada notes. It recently created 3,500 cards to commemorate its sponsorship of Seattle's new professional women's basketball team, the Seattle Reign, for example. It gave Reign fans 3,000 of the \$1 cards, pumping 500 into the collector market.

Cards tied to special events are big sellers, Tada says. U S West's hottest card is one done for a Super Bowl held in Arizona.

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3107322/9

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03107322 Supplier Number: 44235242 (THIS IS THE FULLTEXT)

**LESSONS In Surviving SUCCESSFULLY**

VARBUSINESS VAR 100, pN/A

Nov 15, 1993

Language: English Record Type: Fulltext

Document Type: Magazine/Journal; Trade

Word Count: 2836

TEXT:

By JEREMY SCHLOSBERG

JOHN ROLLINS, PRESIDENT OF AZTECH CORP., KEEPS A tally sheet on the wall in his Bethesda, Md., office of the names of Aztech's competitors - other VARs selling systems to nonprofit associations - that have gone out of business during the past 10 years. The list has 13 names. Aztech, meanwhile, celebrated its 25th anniversary this year. Founded in 1968 as a service bureau, Aztech began by processing accounting information on punch cards on a used IBM mainframe that filled a 25-foot-square room. You needed a machine that big to pack a mighty 64K of memory and 50 Mbytes of hard disk space.

'It was a totally different world,' Rollins says with a chuckle. 'Talk about change.'

If you've been in the VAR business as long as Rollins has - predating, of course, the very concept of a VAR - then change is something you're plenty used to talking about and acting upon. In this most dynamic of arenas, Rollins, with a glance at his list on the wall, will readily remind you of the fate awaiting technology providers that don't respond well to change. To be a VAR with a history of 20 or more years in 1993 - to be what we like to call a 'venerable VAR' - is to have weathered a previously inconceivable storm of technological change. Venerable VARs were founded not only before the advent of the microcomputer and the minicomputer, but well before anyone could have remotely anticipated the day such a massive amount of processing power could be concentrated, inexpensively, in a box that sits on a desk or on a lap.

But to say the key to VAR longevity is the ability to respond to change is not unlike George Burns' famous response to the question 'To what do you attribute your long life?' which was, 'To the fact that I haven't died yet.' Obviously a VAR has to adapt well and often to become a venerable VAR. Exactly how you create and maintain an organization that deals skillfully with constant flux is the crucial question.

From our conversations with venerable VARs, the answer begins with a recognition of a continued undertow of opposing characteristic forces that pull at any company seeking to provide customers with technological solutions to specific business problems. There is, in fact, an identifiable circle of such countervailing forces that VARs that have survived over the long haul have grown adept at understanding and, when possible, reconciling.

It is useful to think of the circle beginning with a characteristic that launches most good technology companies: technological vision. Technological vision is an ineffable beast, having less to do with being a Steve Jobs-like visionary than with possessing an intuitive understanding of what technology will be useful in your marketplace at any given time.

It accounts, on the one hand, for the spark that sets your products apart from your competitors. Think, as an example, of the way Triad Systems Corp. (Livermore, Calif.) from its outset in 1972 sold systems based on computers it designed and assembled itself, even when the company was selling minicomputers. It was a good way in the 1970s to keep down expenses for its cost-conscious customers - auto parts distributors, many of which are small, family businesses - while maintaining good margins for itself, reports president James Porter. Little did Triad management realize at the time it would become just about the only way to eke any hardware margin at all from a sale by the late 1980s. Call it a vision thing.

This technological vision can also be viewed as the 'gut instinct,' as Rollins calls it, that tells you when to commit to a developing technology - when to grab for which tumbling pieces among technology's ongoing avalanche. All of today's venerable VARs had the instinct required to

anticipate, before it was too late, the ultimate, unexpected end of the mainframe era.

Thomas Diamond, president of Diamond Management Systems Inc. (Jenkintown, Pa.) will never forget the day his son brought home a funny-looking gizmo from business school, something his girlfriend's father had made in his basement. It was, apparently, a small computer. While all Diamond did was play blackjack on it at that point, he knew he had seen the future. Diamond's company was a service bureau, founded in 1966, specializing in country club accounting. He started thinking about all the mainframe software that could be rewritten for 'the little guy,' as he saw it. Diamond knew his market would respond well to being able to purchase their own in-house systems.

Likewise, Steve Ciarciello, president of CompuData Inc. (Philadelphia), founded in 1971, remembers that point in the 1970s when he realized that the emergence of dumb terminals was no meaningless accident. It signaled, in his words, 'the end of the batch processing room.' He took minicomputers seriously from the outset, when many of his peers were laughing at the smaller machines. 'People called them toys,' Ciarciello remembers.

We have always looked towards the future,' he continues. But technological vision can, he suggests, be a yoke to bear. 'When you finally get really good at something, it's time to move on,' he says. 'It seems you never quite get to reap the long-term benefits. It can be frustrating.' VARs with untempered technological vision, in fact, might miss the turnoff toward a continually competitive product in their single-minded pursuit of a technological goal. The countervailing force pulling against technological vision at all times is the need to be flexible.

'From the day we started our company, our catch phrase was 'We're flexible,' ' says Aztech's Rollins. 'You just can't afford to be philosophically wedded to any one thing in this business.' Putting its money where its mouth is, Aztech's board of directors held a seminal meeting more than 10 years ago at which they agreed the company - at that point a successful minicomputer VAR of the old proprietary systems school, still in its nonprofit vertical - could not rely on hardware alone for its revenues. A new corporate strategy based on boosting software and service revenues was unveiled, years ahead of similar realizations by other, less flexible VARs.

Open-minded flexibility remains Aztech's hallmark approach to its business. Today, Rollins says, a lot of people are telling him, 'Windows is the last operating system you'll have to write for.' His answer: 'Don't count on it.'

'We have a new paradigm every 12 to 16 months,' reports Mark Lemelman, chairman of the board of ERI, a systems integrator based in Hauppauge, N.Y., that began life in 1960 as a manufacturer's rep selling computer components primarily to defense industry businesses. ERI has evolved successively, and successfully, into a distributor, then a VAR, and most recently a systems integrator in its continually flexible approach to the technology business. 'You need to constantly reengineer your company, constantly reassess your market and business purpose,' Lemelman says.

While some companies, to mangle the famous Shakespeare quotation, are born flexible, others have flexibility thrust upon them. Or, as Thomas Duddy says, 'You have to be in business so that opportunities can find your point of preparation.' Duddy is vice president of marketing for Corstar Business Computing Co. Inc., a Hawthorne, N.Y.-based VAR founded in 1969 by three ex-IBMers, Duddy among them. Corstar's original mission? 'To promulgate advanced management information systems in the corporate world,' says Duddy. 'We thought.'

They figured to be working with IBM machines, even ordered a System 3 Model 10 for themselves the day they left the company. And yet, within a couple of years, Corstar had become Digital Equipment Corp.'s first commercial OEM, thanks to the on-line, interactive capability of Digital's machines. 'We didn't intend to do that, but that's how it ended up,' says Duddy, adding, 'I believe most companies don't end up doing exactly what their game plans called for.'

Triad offers another good example. While established to sell systems to auto part distributors, the company's original strategy was, says Porter, 'to leverage its infrastructure of service and support across a number of different vertical markets.' But it didn't work out that way.

Today, Triad is firmly established in two primary markets: auto parts distribution and retail hard goods, after attempts to crack a couple of other verticals 'didn't work out very well,' says Porter.

We now move to the next tension point on our circle of opposing forces, where flexibility struggles with focus. 'One of the big lessons we learned,' continues Porter, 'was that it's very difficult to be in a lot of different markets. You really need to focus on what you know.'

Determined focus can provide the exact sort of long-term payoff that turns a VAR venerable, as illustrated through the experiences of CyCare Systems Inc., a Scottsdale, Ariz.-based VAR serving the healthcare market since 1967. CyCare started out as a service bureau, evolving into a remote processing system with on-site front end equipment, then to standard in-house systems. Hardware was sold to customers, but 'as a convenience for the customers more than anything else,' notes chairman and CEO Jim Houtz.

Even as turnkey systems became de rigueur, CyCare focused on its own value as a software and service provider. As a matter of fact, the company never - as many others did - abandoned its processing center. 'For a while,' Houtz admits, 'it looked as if the processing centers would disappear.' But the advent of electronic claims and electronic data interchange (EDI) has boosted processing center business in recent years.

CyCare's 25 years of experience is a major selling point for its clearing house service for physicians and groups, translating claims data into one of 400 insurance company formats. Through some combination of luck and foresight - aided by clear focus - CyCare finds itself in one of the few industries with ongoing, serious need for centralized processing, and finds itself there with a seriously developed processing infrastructure. That's focus.

Move along the circle now, however, and you find focus battling not merely with the need to change with the times but the necessity to invest, sometimes heavily, in that change. 'All markets are finite, especially vertical markets,' says Triad's Porter. Stick too close to your knitting and your company will hit a growth dead end. 'What you need to be able to do,' he says, 'is offer additional services to the same marketplace.' Triad started with a turnkey system for its vertical. Two years later, it built a complete support organization. Six years after that, recognizing another need among its customers, Triad launched a leasing company, providing full payout leasing. Today, 60 percent of what the company sells it also finances.

These sorts of infrastructure additions require a serious commitment to reinvestment. ERI's Lemelman speaks earnestly of the 'tens of millions of dollars' his company has invested in itself over the years, most recently in the infrastructure and people required to transform ERI into a systems integrator. 'We have reinvested our profits into the business with tremendous dedication,' he says. A technology company, Lemelman says, cannot expect to derive profit over the long haul without this sort of serious infrastructure investment.

Here Lemelman has identified a major obstacle that turns would-be venerable VARs into vanishing VARs. You've heard all too many times about the trickiness of growing a business based on ever slimmer profit margins, about how a truly developed value-added company cannot expect to compete at the bottom of the pricing barrel. Let the venerable VARs reiterate such points with the wisdom of their long-term experience:

'Low bidders come and go, like the ebb and flow of the tide,' says Lemelman. 'The idea of a company figuring it's going to grow and perpetuate its business by being low bidder is a self-fulfilling prophecy for failure.' Sure, a fledgling company can survive a while on low overhead and slim margins, but such a strategy indicates 'a very limited outlook,' he asserts. 'A company is only as healthy as the profits it can attain. Profit is the perpetuation of the business.' And profits, Lemelman emphasizes, are not perpetuated without a cost, namely, reinvestment in the infrastructure of the business.

Thus in the last few years you have seen more VARs needing to alter their business models away from reliance upon hardware yet without the resources required to make the necessary investments to affect the change. 'I don't know what the answer to that is,' Lemelman says. 'What happens is you see these companies come and go.'

So putting your money where your mouth is in the corporate evolution area is important. And here come the next two countervailing forces on the

circle - you can't change your business in a vacuum. You can't follow trends for the sake of being trendy, you can't always listen to a vendor's often self-serving advice. You have to do what makes sense for your own business.

If there's a secret, it's 'To thine own self be true,' says Corstar's Duddy (another Shakespeare quotation!). VARs successful over decades are those with a deep sense of their own mission, a deep trust in their own knowledge. 'The technology changes and the business needs change, but there is always underneath a core knowledge that is the same,' says Joseph Bausman, president of the Computer Systems Division of Dayton, Ohio-based Reynolds & Reynolds Co., founded as a seller of business forms in 1866. As Reynolds & Reynolds developed a highly specialized understanding of the automobile dealer business it came to focus on, the more it naturally found itself moving in appropriate directions during an evolution. 'That took us from punch cards and tab machines through batch remote data entry systems to on-line computer systems and ultimately to the in-house computer systems approach we have today,' Bausman says, summarizing in one sentence the major developmental stages through which many venerable VARs have passed.

Self-knowledge is necessary, but not sufficient. The opposing force that must be reconciled against it is customer orientation. Engineers have long been able to dream up terrific products that not a customer in the world has any interest in buying. The final notch along our circle is, to many VARs' thinking, the most important.

'We've always been driven by the customer,' says ERI's Lemelman. 'From the day I started the business, I realized that the customer was the one who paid my commission. My attention belonged on serving the customer's needs.'

'Customer service is the key,' agrees CompuData's Ciarciello. 'Service is the single most important reason why we've stuck around so long.' Or, as Corstar's Duddy likes to say, 'We've never had a failed system in the history of our company. That doesn't mean we don't make mistakes, but we don't turn our back on the customer, ever.'

How customer oriented are venerable VARs? So customer oriented, they care about more than just their own customers. 'You have to understand not only your direct customer, but your customer's customer too,' says Bausman. In its market, Reynolds & Reynolds' direct customer is the automobile dealer, he says, 'but, ultimately, our systems have to facilitate serving the needs of their customers.'

Venerable VARs are so customer oriented they intuitively understand that their businesses can only be helped when their customers are helped. Sounds logical enough, but think for a moment of how many technology companies with vested interests in proprietary systems resisted the move to open systems, even when end-user benefits were crystal clear. CompuData was an early adopter of SCO Unix-based systems for that very reason, although Ciarciello remembers resistance from the hardware supplier camp. Too many VARs and vendors took the shortsighted stance that open systems would hurt their businesses.

On the contrary, says Ciarciello. 'Our customers appreciated that we were giving them these new opportunities and benefits. We looked like the heroes - giving them productivity tools they never had before.'

You can see that customer focus can sometimes butt up against technological vision back at the top of our circle. But these two sometimes opposing forces are, if a VAR is careful, reconcilable. In fact, in their reconciliation may well lie the key to VAR longevity. Bausman is particularly articulate on the subject of nurturing profitable synergy between technological drive and customer orientation.

'Technology,' he says, 'is the enabler for us to find new and better ways to serve our customer. It's less about hardware and more about facilitating the competitive advantage we can provide to our customers through the systems we provide.'

'After all,' he concludes, 'our customers are always looking much more for the competitive advantage they can get than they are at the technology. That's the way we always have to deal with the problem.' Technological vision is crucial in order to sort through exactly what new products may be economically viable and commercializable, but if it's not tempered by customer focus it may be worse than useless. As far as Bausman is concerned, a VAR's business - and, certainly, a venerable VAR's business - is 'not about having the latest technology. It's about having something

that can help make the customer successful in his or her point of business.'

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